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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,046	10/26/2001	Risto Paatelma	4925-162	3788

7590 09/14/2005

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EXAMINER

BEAMER, TEMICA M

ART UNIT PAPER NUMBER

2681

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/036,046

Applicant(s)

PAATELMA ET AL.

Examiner

Temica M. Beamer

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed January 3, 2005 with respect to the rejection(s) of claim(s) 1-18 under 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mobin et al, U.S. Patent No. 6,522,696.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-6, 8-10, 12-16 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Mobin et al (Mobin), U.S. Patent No. 6,522,696.

Regarding claims 1, 3-6, 8-10, 12-16 and 21, Mobin discloses a synchroniser for use in a receiver which receives signals, said synchroniser comprising: means for providing a digital control signal, said control signal defining a plurality of different levels; means for controlling the level provided by successive ones of said control signals, successive ones of said control signal defining different values; and means for

estimating the difference between the levels of successive ones of said control signals (col. 7, line 60-col. 8, line 40; figures 1A and 1B). Mobin further discloses the controlling and estimating in the digital domain and error correction and tracking techniques (col. 6, lines 21-40, col. 7, line 60-col. 8, line 67; figures 1A and 1B).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 7, 11, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mobin in view of Kroeger et al (Kroeger), U.S. Patent No. 5,579,345.

Regarding claims 2, 7, 17 and 18, Mobin discloses the synchronizer as claimed in claim 1 as described above. Mobin, however, fails to disclose digital to analog conversion and error correction in the analog domain.

In a similar field of endeavor, Kroger discloses digital to analog conversion and error correction in the analog domain (col. 4, lines 4-34, col. 5, line 65-col. 6, line 12, col. 7, lines 3-15).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Mobin with the teachings of Kroeger since it is known to perform such signal processing.

***Allowable Subject Matter***

6. Claims 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shen, U.S. Patent No. 6,625,231 discloses adaptive phase demodulation.

Bogdan, U.S. Patent No. 5,910,753, discloses direct digital phase synthesis.

Buchwald, U.S. Patent No. 5,757,857, discloses high speed self-adjusting clock recovery circuit with frequency detection.

Kroeger et al, U.S. Patent No. 5,768,323, discloses symbol synchronizer using modified early/punctual/late gate technique.

Kobayaski et al, U.S. Patent No. 4,100,531, discloses bit error rate measurement above and below bit rate tracking threshold.

Kleider et al, U.S. Patent No. 6,487,252, discloses a wireless communication system and method for synchronization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Beamer whose telephone number is (571) 272-7797. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 7:00am-4:00pm.

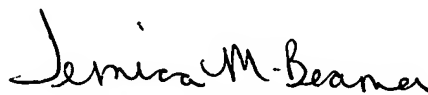
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temica M. Beamer  
Primary Examiner  
Art Unit 2681

September 7, 2005

  
TEMICA BEAMER  
PRIMARY EXAMINER